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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Walther

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EXAMINER

ANGWIN, DAVID PATRICK

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,594	Applicant(s) WALTHER ET AL.	
	Examiner David P. Angwin	Art Unit 4155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/14/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed with this office in parent application No. 103 35 230.9, filed in Germany on August 1, 2003.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on March 14, 2006, has been considered by the examiner.

Drawings

The drawings are objected to. Please provide drawings that are more illustrative of the applicant's invention. For example, drawings illustrating a top view of Figures 2 and 3, and a more detailed side view would be helpful. The current drawings do not clearly detail the applicant's invention.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) that forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically taught or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

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a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 25-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) in view of *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831).

Regarding **claim 25**:

- a. *Brady et al* teaches the following in his reference:
 - i. applying at least parts of an antenna and a tuned circuit required for functioning of the RFID label ~~by printing conductor tracks on a printing material by sheet-fed offset printing~~ (2:17-28; Fig. 5).
- b. *Brady et al* does not clearly teach the following in his reference:
 - i. applying at least parts of an antenna and a tuned circuit required for functioning of the RFID label by printing conductor tracks on a printing material by sheet-fed offset printing.
- c. However, *Howard et al* teaches the following in his reference:
 - i. applying at least parts of an antenna and a tuned circuit required for functioning of the RFID label by printing conductor tracks on a printing material by sheet-fed offset printing (7:45-52).

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- d. The advantage of printing both the antenna and the circuit is to avoid an additional step of having to connect additional circuitry to the substrate.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

- i. applying just the antenna by printing as taught by *Brady et al*; with
- ii. applying the antenna and circuitry by printing as taught by *Howard et al*;

to avoid an additional step of having to connect additionally circuitry to the substrate.

- f. In addition, *Babb* teaches the following in her reference:

- i. applying at least parts of an antenna ~~and a tuned circuit~~ required for functioning of the RFID label by printing conductor tracks on a printing material by sheet-fed offset printing (1:35-40).

- g. The advantage of utilizing sheet-fed offset printing is to avoid scrapping multiple parts when a defective part is made because each part is printed separately.

- h. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

- i. a method of printing conductor tracks onto a printing material that does not expressly teach utilizing sheet-fed printing as taught by *Beck et al* as modified by *Howard et al*; with
- ii. a method of printing conductor tracks onto a printing material that teaches utilizing sheet-fed printing as taught by *Babb*;

to avoid scrapping multiple parts when a defective part is made because each part is printed separately.

Regarding **claim 26**:

- a. In addition to the limitations taught in claim 25, *Brady et al* further teaches the following in his reference:
 - i. a conductive paste is used ~~for printing the conductor tracks.~~
- b. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not clearly teach the following in his reference:
 - i. printing the conductor tracks.
- c. However, *Howard et al* teaches the following in his reference:
 - i. printing the conductor tracks.
- d. The advantage of printing both the antenna and the conductor tracks is to avoid an additional step of having to connect additional circuitry to the substrate.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying just the antenna by printing with a conductive paste as taught by *Brady et al*; with
 - ii. applying the antenna and conductor tracks by printing with a conductive paste as taught by *Howard et al*;to avoid an additional step of having to connect additionally circuitry to the substrate.

Claims 27 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Tuttle* (US Patent 6,037,879).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following in his reference:
 - i. conductive printing ink having metallic particles is used for printing the conductor tracks.
- b. However, *Tuttle et al* teaches the following in his reference:
 - i. conductive printing ink having metallic particles used for printing conductor tracks (6:30-40).
- c. The advantage of using conductive printing ink having metallic particles to print the conductor tracks is to avoid the step of having to connect additional circuitry to the substrate.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying conductive traces through a method that does not expressly include utilizing conductive ink with metallic particles to form the conductive traces as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. applying conductive traces through a method that includes utilizing conductive ink with metallic particles to form the conductive traces as taught by *Tuttle*; withto avoid the step of having to connect additionally circuitry to the substrate.

Claim 28 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Monico* (US Patent 6,259,369).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following in his reference:
 - i. conductive printing ink having carbon black or carbon fibers is used for printing the conductor traces.
- b. However, *Monico et al* teaches the following in his reference:
 - i. conductive printing ink having carbon black or carbon fibers is used for printing the conductor traces (5:41-45).
- c. The advantage of using conductive printing ink having carbon black or carbon fibers to make the conductive traces is to make the ink transparent and avoid being detected by the human eye.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying conductive traces through a method that does not expressly include utilizing conductive ink having carbon black or carbon fibers to form the conductive traces as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. applying conductive traces through a method that includes utilizing conductive ink having carbon black or carbon fibers to form the conductive traces as taught by *Monico*; withto make the ink transparent and avoid being detected by the human eye.

Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Weisgerber* (US Patent 4,781,370).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following in his reference:
 - i. the conductor tracks are applied in a sheet-fed offset press having a gripper transport means.
- b. However, *Weisgerber* teaches the following in his reference:
 - i. sheets fed into a sheet-fed offset press having a gripper transport means (Fig. 1).
- c. The advantage of utilizing a gripper transport means is to securely grasp the workpiece.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a sheet-fed offset press with a transport means that is not expressly set forth as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. a sheet-fed offset press with a transport means that is set forth as taught by *Weisgerber*; withto securely grasp the workpiece.

Claim 30 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and

Babb (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Sarda* (US Patent 4,815,376).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following in his reference:
 - i. the conductor tracks are applied within a web-fed offset press.
- b. However, *Sarda* teaches the following in his reference:
 - i. sheets fed into a web-fed offset press (Figs. 6 and 7).
- c. The advantage of utilizing a web-fed offset press is to produce higher throughput.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a sheet-fed offset press as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. a web-fed offset press as taught by *Sarda*; withto produce higher throughput.

Claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Babb* (US Patent 6,429,831), and *Weisgerber* (US Patent 4,781,370) as applied to claims 25, 26, and 29 above and further in view of *Robertz et al* (US Patent 6,206,292).

- a. *Brady et al* as modified by *Howard et al*, *Babb*, and *Weisgerber* as applied to claim 29 does not expressly teach the following in his reference:

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- i. said step of applying comprises applying the parts of the antenna and the tuned circuit to a rear side of the printing material, and subsequently turning the printing material over in a turner device.
- b. However, *Robertz et al* teaches the following in his reference:
 - i. said step of applying comprises applying the parts of the antenna and the tuned circuit to a rear side of the printing material, and subsequently turning the printing material over in a turner device (2:31-34).
- c. The advantage of turning the printing material over is to add circuitry to the other side of the printing material.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. an RFID manufacturing process that does not expressly discuss turning the printing material over as taught by *Brady et al* as modified by *Howard et al*, *Babb*, and *Weisgerber* as applied to claim 29; with
 - ii. an RFID manufacturing process that includes turning the printing material over as taught by *Robertz et al*;to add circuitry to the other side of the printing material.

Claims 32-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Grabau et al* (US Patent 6,147,662).

Regarding **claim 32**:

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- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following in his reference:
 - i. the step of applying a protective varnish or a protective ink to the printing material after the parts of the antenna and the tuned circuit are applied to the printing material.
- b. However, *Grabau* teaches the following in his reference:
 - i. the step of applying a protective varnish or a protective ink to the printing material after the parts of the antenna and the tuned circuit are applied to the printing material (6:28-67).
- c. The advantage of adding a protective varnish or a protective ink to the printing material after the parts of the antenna and the tuned circuit are applied to the printing material is to protect the circuitry from mechanical damage.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. an RFID without an express teaching of a protective varnish or a protective ink to protect the circuitry as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. an RFID without an express teaching of a protective varnish or a protective ink to protect the circuitry as taught by *Grabau et al*;to protect the circuitry from mechanical damage.

Regarding **claim 33**:

- a. In addition to the limitations in claim 32, *Babb* further teaches the following in her reference:

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- i. the protective varnish or the protective ink is applied using a sheet-fed offset printing method (1:44-47)
- b. The advantage of adding a protective varnish or a protective ink utilizing a sheet-fed press is to add the protective coating by utilizing the same equipment as was utilized to make the conductive traces.
- c. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. add protective coating by using a process that was not expressly mentioned as taught by *Brady et al* as modified by *Howard et al*, *Babb*, and *Grabau et al* as applied to claim 32; with
 - ii. add protective coating by using a process sheet-fed press as further taught by *Babb*;to add the protective coating by utilizing the same equipment as was utilized to make the conductive traces.

Claims 34 and 36-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Vega et al* (US Patent 6,265,977).

Regarding **claim 34**:

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 further teaches the following:
 - i. the step of applying a protective varnish to the printing material after the parts of the antenna and the tuned circuit are applied to

the printing material wherein the protective vanish is applied (*Babb*, 1:44-47) using a flexographic printing unit having a chamber type doctor and an engraved roll.

- b. However, *Vega et al* teaches the following in his reference:
 - i. the step of applying ink to the printing material by using a flexographic printing unit (3:12-18).
- c. The examiner notes that a flexographic printing unit have a chamber type doctor and engraved roll is inherent.
- d. The advantage of utilizing a flexographic printing unit is to print onto a thin and flexible substrate.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing a protective coating through a process that does not expressly include flexographic printing as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. printing a protective coating through a process that includes flexographic printing as taught by *Vega et al*;to print onto a thin and flexible substrate.

Regarding **claim 36**:

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:
 - i. the printing material is a fibrous material.
- b. However, *Vega et al* further teaches the following in his reference:
 - i. the printing material is paper (5:9-21).

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- c. The examiner notes that paper is known to be a fibrous material.
- d. The advantage of utilizing paper is to print on a substrate that is inexpensive and commonly used.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing upon a substrate that does not expressly include printing upon paper as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. printing upon a paper substrate as taught by *Vega et al*;
to print on a substrate that is inexpensive and commonly used.

Regarding **claim 37**:

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:
 - i. the printing material is a film.
- b. However, *Vega et al* further teaches the following in his reference:
 - i. the printing material is a polymer (5:9-21).
- c. The examiner notes that polymers are known to be films.
- d. The advantage of utilizing a film is to print conductive traces on a reusable and durable substrate (5:17-21).
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

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- i. printing upon a substrate that does not expressly include printing upon a film as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. printing upon a polymer as taught by *Vega et al*;
- to print conductive traces on a reusable and durable substrate (5:17-21).

Regarding **claim 38**:

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:
 - i. the printing material is a woven fabric made from at least one of natural and synthetic fibers.
- b. However, *Vega et al* further teaches the following in his reference:
 - i. the printing material is polyester (5:9-21).
- c. The examiner notes that polyester is known to be a woven fabric material made of synthetic fibers.
- d. The advantage of utilizing a woven fabric is to print on a substrate that is reusable and durable.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing upon a substrate that does not expressly include printing upon polyester as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. printing upon a polyester substrate as taught by *Vega et al*;to print on a substrate that is reusable and durable.

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Claim 35 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Feesler* (US Patent 6,343,550).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:
 - i. the protective varnish is applied via a two-roll flexographic printing unit.
- b. However, *Feesler* teaches the following in his reference:
 - i. the varnish is applied via a two-roll flexographic printing unit (1:41-43).
- c. The advantage of utilizing a two-roll flexographic printing unit is to utilize a machine that is widespread and whose capabilities are well known.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing a protective coating through a process that does not expressly include two-roll flexographic printing as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. printing a protective coating through a process that utilizes two-roll flexographic printing as taught by *Feesler*;to utilize a machine that is widespread and whose capabilities are well known.

Claim 39 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Gron et al* (US Patent 6,712,931).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:
 - i. wherein the printing material is an absorbent printing material, the method further comprising one of precoating, prevarnishing or preprinting the printing materials with a varnish or a preprinting ink to reduce absorption properties of the printing material.
- b. However, *Gron et al* teaches the following in his reference:
 - i. wherein the printing material is an absorbent printing material, the method further comprising one of precoating, prevarnishing or preprinting the printing materials with a varnish or a preprinting ink to reduce absorption properties of the printing material (3:50-4:15).
- c. The advantage of utilizing a precoating is to reduce absorption properties of the printing material (3:61-66).
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing through a process that does not expressly include adding a precoating as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. printing through a process that includes adding a precoating as taught by *Gron et al*;to reduce absorption properties of the printing material (3:61-66).

Claim 40 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Babb* (US Patent 6,429,831), and *Gron et al* (US Patent 6,712,931) as applied to claims 25, 26, and 39 above and further in view of *Yoshida et al* (US Patent 4,933,123).

- a. *Brady et al* as modified by *Howard et al*, *Babb*, and *Gron et al* as applied to claim 39 does not expressly teach the following:
 - i. the step of precoating, prevarnishing, or preprinting is performed by a direct letterpress printing unit.
- b. However, *Yoshida et al* teaches the following in his reference:
 - i. applying ink utilizing a direct letterpress printing unit (5:54-57).
- c. The advantage of utilizing a direct letterpress unit is to utilize a well-known process.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a step of applying a precoating that does not expressly include using a direct letterpress printing unit as taught by *Brady et al* as modified by *Howard et al*, *Babb*, and *Gron et al* as applied to claim 39; with
 - ii. a step of applying ink that includes using a direct letterpress printing unit as taught by *Yoshida et al*;to reduce absorption properties of the printing material (3:61-66).

Claim 41 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Babb*

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(US Patent 6,429,831), and *Gron et al* (US Patent 6,712,931) as applied to claims 25, 26, and 39 above and further in view of *Horiguchi et al* (US Patent 5,617,788).

- a. *Brady et al* as modified by *Howard et al*, *Babb*, and *Gron et al* as applied to claim 39 does not expressly teach the following:
 - i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using a relief printing plate and a rubber-covered cylinder.
- b. However, *Horiguchi et al* teaches the following in his reference:
 - i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using a relief printing plate and a rubber-covered cylinder (1:45-50).
- c. The advantage of precoating utilizing a relief printing plate is to utilize a printing process that it is a well known.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a step of applying a precoating that does not expressly include using a relief printing plate as taught by *Brady et al* as modified by *Howard et al*, *Babb*, and *Gron et al* as applied to claim 39; with
 - ii. a step of applying ink that includes using a relief printing plate as taught by *Horiguchi et al*;to utilize a printing process that it is a well known.

Claim 42 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Babb* (US Patent 6,429,831), and *Gron et al* (US Patent 6,712,931) as applied to claims 25, 26, and 39 above and further in view of *Vega et al* (US Patent 6,265,977).

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- a. *Brady et al* as modified by *Howard et al*, *Babb*, and *Gron et al* as applied to claim 39 does not expressly teach the following:
 - i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using an offset printing unit.
- b. However, *Vega et al* teaches the following in his reference:
 - i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using an offset printing unit (7:18-26).
- c. The advantage of precoating utilizing offset printing is to utilize a printing process that it is a well known.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a step of applying a precoating that does not expressly include using offset printing as taught by *Brady et al* as modified by *Howard et al*, *Babb*, and *Gron et al* as applied to claim 39; with
 - ii. a step of applying ink that includes offset printing as taught by *Vega et al*;to utilize a printing process that it is a well known.

Claim 43 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Shoobridge et al* (US Patent 6,603,400).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:

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- i. the step of printing two lines next to one another over a distance to produce a capacitive element, the lines being connected to one another at the ends of a short line of the two lines.
- b. However, *Shoobridge et al* teaches the following in his reference:
 - i. the step of printing two lines next to one another over a distance to produce a capacitive element, the lines being connected to one another at the ends of a short line of the two lines (1:57-2:11; Fig. 2).
- c. The advantage of printing capacitors is to avoid the step of attaching a capacitor to the substrate.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a process that does not expressly include printing capacitors onto a substrate as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. a process that includes printing capacitors onto a substrate as taught by *Shoobridge*;to avoid the step of attaching a capacitor to the substrate.

Claim 44 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Babb* (US Patent 6,429,831) as applied to claims 25 and 26 above and further in view of *Redinger et al* (non-patent literature).

- a. *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25 does not expressly teach the following:
 - i. the step of producing a capacitive element by printing a base line on the printing material, printing an insulator, and printing a

complementary line on the insulator so that the insulator is arranged between the base line and the complementary line.

- b. However, *Redinger et al* teaches the following in his reference:
 - i. the step of producing a capacitive element by printing a base line on the printing material, printing an insulator, and printing a complementary line on the insulator so that the insulator is arranged between the base line and the complementary line (*Redinger, J.*, "An all-printed passive component technology for low-cost RFID", Device Research Conference Digest 2003; pp. 187-188).
- c. The advantage of printing capacitors and dielectrics is to avoid the step of attaching a capacitor along with a dielectric to the substrate.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a process that does not expressly include printing capacitors and dielectrics onto a substrate as taught by *Brady et al* as modified by *Howard et al* and *Babb* as applied to claim 25; with
 - ii. a process that includes printing capacitors and dielectrics onto a substrate as taught by *Redinger*;to avoid the step of attaching a capacitor along with a dielectric to the substrate.

Claim 45 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) in view of *Howard et al* (US Patent 6,614,392) and *Yokota et al* (WO 03/022594).

- a. *Brady et al* teaches the following in his reference:

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- i. applying at least parts of an antenna and a tuned circuit required for functioning of the RFID label ~~by printing conductor tracks on a printing material by sheet-fed offset printing~~ (2:17-28; Fig. 5).
- b. *Brady et al* does not clearly teach the following in his reference:
 - i. applying at least parts of an antenna and a tuned circuit required for functioning of the RFID label by printing conductor tracks on a printing material by using a relief printing plate.
- c. However, *Howard et al* teaches the following in his reference:
 - i. applying at least parts of an antenna and a tuned circuit required for functioning of the RFID label by printing conductor tracks on a printing material ~~by using a relief printing plate~~ (7:45-52).
- d. The advantage of printing both the antenna and the circuit is to avoid an additional step of having to connect additional circuitry to the substrate.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying just the antenna by printing as taught by *Brady et al*; with
 - ii. applying the antenna and circuitry by printing as taught by *Howard et al*;to avoid an additional step of having to connect additionally circuitry to the substrate.
- f. In addition, *Yokota et al* teaches the following in his reference:
 - i. patterning conductive material by using a relief printing plate (38:3-8).
- g. The advantage of utilizing a relief printing plate to pattern conductors is to utilize a printing process that it is a well known.

- h. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a method of printing conductor tracks onto a printing material that does not expressly teach utilizing a relief printing plate as taught by *Brady et al* as modified by *Howard et al*; with
 - ii. a method of printing conductors onto a printing material that teaches utilizing a relief printing plate as taught by *Yokota*;to utilize a printing process that is well known.

Claims 46-49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Yokota* (WO 03/022594) as applied to claim 45 above and further in view of *Scholzig et al* (US Patent 6,371,024).

Regarding **claim 46**:

- a. *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45 does not expressly teach the following in his reference:
 - i. the relief printing plate is clamped onto a plate cylinder of a sheet-fed printing press or web-fed printing press and the conductor tracks are printed by applying ink to the printing material indirectly by a rubber-covered cylinder.
- b. However, *Scholzig et al* teaches the following in his reference:
 - i. the relief printing plate is clamped onto a plate cylinder of a sheet-fed printing press (1:15-24) and the printing is performed by applying ink to the printing material indirectly by a rubber-covered cylinder (3:61-67).

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- c. The examiner notes that *Scholzig et al* discloses the claimed invention except for a relief printing plate clamped to a web-fed printing press. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace a sheet-fed printing press with a web-fed printing press because these presses are known equivalents.
- d. The advantage of using a relief printing plate clamped to a plate cylinder of a sheet-fed or web-fed printing press is to take advantage of a printing process that it is a well known.
- .
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying conductive traces to a printing material through a method that does not expressly include utilizing a relief printing plate clamped to a sheet-fed or web-fed printing press as taught by *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45; with
 - ii. applying conductive traces to a printing material through a method that includes utilizing a relief printing plate clamped to a sheet-fed or web-fed printing press as further taught by *Scholzig et al*;to take advantage of a printing process that it is a well known.

Regarding **claim 47**:

- a. In addition to the limitations taught in claim 46, *Scholzig et al* further teaches the following in his reference:

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- i. the relief printing plate is used in a printing press which also comprises offset printing units (3:6-14).
 - b. The advantage of using an offset printing process is to take advantage of a printing process that is well known and produces high image quality.
 - c. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying conductive traces to a printing material through a method that does not expressly include offset printing as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, *Scholz*ig et al as applied to claim 45; with
 - ii. applying conductive traces to a printing material through a method that includes utilizing offset printing as further taught by *Scholz*ig et al;
- to take advantage of a printing process that is well known and produces high image quality.

Regarding **claim 48**:

- a. In addition to the limitations taught in claim 45, *Scholz*ig et al further teaches the following in his reference:
 - i. the relief plate is in further contact with the printing material in a sheet-fed or web-fed printing press (3:6-14).
- b. The advantage of using a direct printing process is to take advantage of a printing process that is well known.
- c. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

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- i. applying conductive traces to a printing material through a method that does not expressly include direct printing as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, *Scholzig et al* as applied to claim 45; with
- ii. applying conductive traces to a printing material through a method that includes utilizing direct printing as further taught by *Scholzig et al*;

to take advantage of a printing process that is well known.

Regarding **claim 49**:

- a. In addition to the limitations taught in claim 48, *Scholzig et al* further teaches the following in his reference:
 - i. the relief printing plate is used in a printing press which also comprises offset printing units (3:6-14).
- b. The advantage of using an offset printing process is to take advantage of a printing process that is well known and produces high image quality.
- c. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. applying conductive traces to a printing material through a method that does not expressly include offset printing as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, and *Scholzig et al* as applied to claim 48; with
 - ii. applying conductive traces to a printing material through a method that includes utilizing offset printing as further taught by *Scholzig et al*;

to take advantage of a printing process that is well known and produces high image quality.

Claims 50-52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Yokota* (WO 03/022594) as applied to claim 45 above and further in view of *Vega et al* (US Patent 6,265,977).

Regarding **claim 50**:

- a. *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45 does not expressly teach the following in his reference:
 - i. the printing material is a fibrous material.
- b. However, *Vega et al* teaches the following in his reference:
 - i. the printing material is paper (5:9-21).
- c. The examiner notes that paper is known to be a fibrous material.
- d. The advantage of utilizing paper is to print on a substrate that is inexpensive and commonly used.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing upon a substrate that does not expressly include printing upon paper as taught by *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45; with
 - ii. printing upon a paper substrate as taught by *Vega et al*;to print on a substrate that is inexpensive and commonly used.

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Regarding **claim 51**:

- a. *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45 does not expressly teach the following:
 - i. the printing material is a film.
- b. However, *Vega et al* further teaches the following in his reference:
 - i. the printing material is a polymer (5:9-21).
- c. The examiner notes that polymers are known to be films.
- d. The advantage of utilizing a film is to print conductive traces on a reusable and durable substrate (5:17-21).
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing upon a substrate that does not expressly include printing upon a film as taught by *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45; with
 - ii. printing upon a polymer as taught by *Vega et al*;to print conductive traces on a reusable and durable substrate (5:17-21).

Regarding **claim 52**:

- a. *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45 does not expressly teach the following:
 - i. the printing material is a woven fabric made from at least one of natural and synthetic fibers.
- b. However, *Vega et al* further teaches the following in his reference:
 - i. the printing material is polyester (5:9-21).

- c. The examiner notes that polyester is known to be a woven fabric material made of synthetic fibers.
- d. The advantage of utilizing a woven fabric is to print on a substrate that is reusable and durable.
- e. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing upon a substrate that does not expressly include printing upon polyester as taught by *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45; with
 - ii. printing upon a polyester substrate as taught by *Vega et al*;
to print on a substrate that is reusable and durable.

Claim 53 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Yokota* (WO 03/022594) as applied to claim 45 above and further in view of *Gron et al* (US Patent 6,712,931).

- a. *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45 does not expressly teach the following:
 - i. wherein the printing material is an absorbent printing material, the method further comprising one of precoating, prevarnishing or preprinting the printing materials with a varnish or a preprinting ink to reduce absorption properties of the printing material.
- b. However, *Gron et al* teaches the following in his reference:
 - i. wherein the printing material is an absorbent printing material, the method further comprising one of precoating, prevarnishing or

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preprinting the printing materials with a varnish or a preprinting ink to reduce absorption properties of the printing material (3:50-4:15).

- c. The advantage of utilizing a precoating is to reduce absorption properties of the printing material (3:61-66).
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. printing through a process that does not expressly include adding a precoating as taught by *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45; with
 - ii. printing through a process that includes adding a precoating as taught by *Gron*;to reduce absorption properties of the printing material (3:61-66).

Claim 54 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Yokota* (WO 03/022594), and *Gron et al* (US Patent 6,712,931) as applied to claims 45 and 53 above and further in view of *Yoshida et al* (US Patent 4,933,123).

- a. *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53 does not expressly teach the following:
 - i. the step of precoating, prevarnishing, or preprinting is performed by a direct letterpress printing unit.
- b. However, *Yoshida et al* teaches the following in his reference:
 - i. applying ink utilizing a direct letterpress printing unit (5:54-57).
- c. The advantage of utilizing a direct letterpress unit is to utilize a well-known process.

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d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

- i. a step of applying a precoating that does not expressly include using a direct letterpress printing unit as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53; with
- ii. a step of applying ink that includes using a direct letterpress printing unit as taught by *Yoshida et al*;

to reduce absorption properties of the printing material (3:61-66).

Claim 55 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Yokota* (WO 03/022594), and *Gron et al* (US Patent 6,712,931) as applied to claims 45 and 53 above and further in view of *Horiguchi et al* (US Patent 5,617,788).

a. *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53 does not expressly teach the following:

- i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using a relief printing plate and a rubber-covered cylinder.

b. However, *Horiguchi et al* teaches the following in his reference:

- i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using a relief printing plate and a rubber-covered cylinder (1:45-50).

c. The advantage of precoating utilizing a relief printing plate is to utilize a printing process that it is well known.

- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a step of applying a precoating that does not expressly include using a relief printing plate as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53; with
 - ii. a step of applying ink that includes using a relief printing plate as taught by *Horiguchi et al*;to utilize a printing process that it is well known.

Claim 56 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), *Yokota* (WO 03/022594), and *Gron et al* (US Patent 6,712,931) as applied to claims 45 and 53 above and further in view of *Vega et al* (US Patent 6,265,977).

- a. *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53 does not expressly teach the following:
 - i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using an offset printing unit.
- b. However, *Vega et al* further teaches the following in his reference:
 - i. the step of precoating, prevarnishing or preprinting includes applying the varnish or ink using an offset printing unit (7:18-26).
- c. The advantage of precoating utilizing offset printing is to utilize a printing process that it is well known.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

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- i. a step of applying a precoating that does not expressly include using offset printing as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53; with
- ii. a step of applying ink that includes offset printing as taught by *Vega et al*;

to utilize a printing process that it is well known.

Claim 57 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392), and *Yokota* (WO 03/022594) as applied to claim 45 above and further in view of *Shoobridge et al* (US Patent 6,603,400).

- a. *Brady et al* as modified by *Howard et al* and *Yokota* as applied to claim 45 does not expressly teach the following:
 - i. the step of printing two lines next to one another over a distance to produce a capacitive element, the lines being connected to one another at the ends of a short line of the two lines.
- b. However, *Shoobridge et al* teaches the following in his reference:
 - i. the step of printing two lines next to one another over a distance to produce a capacitive element, the lines being connected to one another at the ends of a short line of the two lines (1:57-2:11; Fig. 2).
- c. The advantage of printing capacitors is to avoid the step of attaching a capacitor to the substrate.
- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:

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- i. a process that does not expressly include printing capacitors onto a substrate as taught by *Brady et al* as modified by *Howard et al* and *Yokota*, and *Gron et al* as applied to claim 53; with
- ii. a process that includes printing capacitors onto a substrate as taught by *Shoobridge*;

to avoid the step of attaching a capacitor to the substrate.

Claim 58 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Brady et al* (US Patent 6,259,408) as modified by *Howard et al* (US Patent 6,614,392) and *Yokota* (WO 03/022594) as applied to claim 45 further in view of *Redinger et al* (non-patent literature).

- a. *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 45 does not expressly teach the following:
 - i. the step of producing a capacitive element by printing a base line on the printing material, printing an insulator, and printing a complementary line on the insulator so that the insulator is arranged between the base line and the complementary line.
- b. However, *Redinger et al* teaches the following in his reference:
 - i. the step of producing a capacitive element by printing a base line on the printing material, printing an insulator, and printing a complementary line on the insulator so that the insulator is arranged between the base line and the complementary line (*Redinger, J.*, "An all-printed passive component technology for low-cost RFID", Device Research Conference Digest 2003; pp. 187-188).
- c. The advantage of printing capacitors and dielectrics is to avoid the step of attaching a capacitor along with a dielectric to the substrate.

- d. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace:
 - i. a process that does not expressly include printing capacitors and dielectrics onto a substrate as taught by *Brady et al* as modified by *Howard et al*, *Yokota*, and *Gron et al* as applied to claim 53; with
 - ii. a process that includes printing capacitors and dielectrics onto a substrate as taught by *Redinger*;
- to avoid the step of attaching a capacitor along with a dielectric to the substrate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Angwin whose telephone number is 703-270-3735. The examiner can normally be reached on 7:30 AM - 5 PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on 703-272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Victor Batson/

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DPA